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EXAMINER
EVANS, G

ART UNIT	PAPER NUMBER
2106	5

DATE MAILED: 08/10/95

21M1/0810
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This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☒ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☒ Notice of Art Cited by Applicant, PTO-1449. (7)
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____.

Part II SUMMARY OF ACTION

1. ☒ Claims 1-39 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-39 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

Part III DETAILED ACTION

1. Claims 2,5, and 7 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 2 "metal" should be "a metal". In claim 5 the meaning of "laser wavelength" is indefinite since different laser types have different wavelengths. In claim 7 the meaning of the word "scales" is unclear.

2. Claim 37 is objected to under 37 C.F.R. § 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See M.P.E.P. § 608.01(n). Accordingly, the claim has not been further treated on the merits.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-5,8-17,39 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Miyauchi et al. in U.S. Patent 5,208,437.

5. Claims 1 and 6 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Zysset et al. in the article "Picosecond Optical Breakdown: Tissue effects and Reduction of Collateral Damage".

6. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

7. Claims 18,20, 38 are rejected under 35 U.S.C. § 103 as being unpatentable over Miyauchi et al. in view of Kunz et al. Kunz et al. in U.S. Patent 4,675,500 teaches using a flexible diaphragm

to change the transverse mode of the laser beam. It would have been obvious to adapt Miyauchi et al. in view of Kunz et al. to provide this to change the spot size.

8. Claim 19 is rejected under 35 U.S.C. § 103 as being unpatentable over Zysset et al. in view of L'Esperance, Jr. L'Esperance, Jr. in U.S. Patent 4,729,372 teaches using a mask to control the beam shape. It would have been obvious to adapt Zysset et al. in view of L'Esperance , Jr. to provide this to control the beam shape.

9. Claims 20 and 38 are rejected under 35 U.S.C. § 103 as being unpatentable over Miyauchi et al. in view of Von Allmen et al.. Von Allmen et al. teaches ablating with a laser beam of a TEM_{11} configuration to provide essentially rectangular ablation spot size instead of a essentially round spot size with a Gaussian beam. It would have been obvious to adapt Miyauchi et al. in view of Von Allmen et al. to provide this to change the spot size of the beam on the workpiece.

10. Claim 7 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112 and to include all of the limitations of the base claim and any intervening claims.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schmidt-Hebbel

focuses the beam beneath the workpiece. Yi determines the beam intensity threshold at which engraving begins. Itoh et al. determines the ablation threshold of laser fluence for various materials. Rink et al. has a variable pulse width laser .

12. Claims 21-36 are allowable over the prior art of record.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoff Evans whose telephone number is (703) 308-1653.

Geoffrey S. Evans

GEOFFREY S. EVANS
PRIMARY EXAMINER
GROUP 210

GSE
August 6, 1995